DRAFT
Technical Issues Committee (TIC)
Meeting Notes
9 May 2006

Attendees:
Dr. Karl Longley, Central Valley Water Board
Dan Waligora, Department of Fish and Game
Maryam Khosravifard, Department of Food and Agriculture
Dania Huggins, Central Valley Water Board
Dave Ceppos, Center for Collaborative Policy (CCP)
Joe McGahan, Westside San Joaquin River Watershed Coalition
Bill Croyle, Central Valley Water Board
Melissa Morris, Central Valley Water Board
Mike Johnson, UC Davis
Sandy Nurse, Sierra Foothill Laboratory
Stephen Clark, Pacific EcoRisk
Marshall Lee, Department of Pesticide Regulation
Jody Edmunds, URS
Wendy Cohen, Central Valley Water Board
John Swanson, Central Valley Water Board
Diana Messina, Central Valley Water Board
Keith Larson, Turlock Irrigation District
Jim Atherstone, So. San Joaquin Irrigation District
Don Weston, UC Berkeley
Claus Suverkropp,
David Cory, SJRECWA
Roberta Firoved, California Rice Commission
Lenwood Hall, University of Maryland
Jim Markle, CURES

Current Action Items

1. 1. Triggers Focus Group will consider developing recommendations for the scenario of a failed toxicity test and appropriate follow-up in order to address comments regarding TIC Recommendation #1.

2. Triggers Focus Group will work on minor language changes to the Recommendations #2-4, for which there was agreement by the TIC to forward them to Water Board staff.

3. FG Recommendation #5 (appended to these meeting notes) discussions will continue, with consideration for agreement, at the 13 June TIC meeting

4. FG Recommendation #6 will be routed to the entire TIC by email to see if any comments are made. If only minor changes are requested or suggested, the recommendation will be forwarded to Water Board staff as a comment to the tentative Conditional Waiver documents.

5. The Triggers Focus group is continuing to work on recommendations for Assessment Completeness, and on the Options Table, and will consider the value of making recommendations for failed tests and for flow and load requirements.

6. A copy of Sediment Toxicity Focus Group Recommendation #1 is appended to these meeting notes. The topic will be discussed at the 13 June 2006 meeting, for possible agreement by the TIC.

7. The Laboratory Round Table Focus Group will continue to develop the recommendation regarding Performance Based methodologies and re-present it at the 13 June 2006 meeting.

I. Triggers Focus Group Recommendations from April

A. Final TIC Recommendation #1. Per the request of members of the TIC at the April meeting, recommendation #1 was routed to various programs within the Central Valley Water Board. Two comments were received for the recommendation, which has to do with the action that should take place for toxicity exceedances of less than 50% difference from laboratory control. These two comments were as follows:

1. Use of the following language can be problematic: "Samples that are 'statistically significant' at the end of an acceptable test and that exhibit a greater than or equal to 20% reduction in organism response compared to the control will require follow-up sampling.' This language could cause problems if the coalitions do not initiate follow-up monitoring at the time when 20% toxicity is indicated – if they, in fact, wait until the test is completed in full, and only if it meets all the QC specifications for the method. This in fact is occurring in some cases, and appropriate follow-up monitoring does not take place, because the test results are not 'acceptable.'

2. For the purpose of the long-term program, the MRP should begin to utilize chronic toxicity tests, as are being required for NPDES, dredging and stormwater programs. This more fully complies with the narrative toxicity objectives for the Basin Plan.

Following considerable discussion regarding these two comments, no additional changes to the Recommendation #1 were proposed by the TIC.

B. **FG Recommendation #2** (Chemistry and Bacteriological). Agreement was reached on this Recommendation with the suggestion for minor language to reference the Options Table that is being developed by the Triggers Focus Group.

C. **FG Recommendation #3** (Field Test Exceedances). Agreement was reached on this Recommendation with the suggestion for minor language to reference the Options Table that is being developed by the Triggers Focus Group.

D. **FG Recommendation #4** (Trigger for Storm Water Monitoring). Agreement was reached on this Recommendation with the suggestion for minor language changes to address the difficulty conducting storm water monitoring to address application of dormant spray.

II. Triggers Focus Group – New Recommendations

A. **FG Recommendation #5** (Source ID Follow-up for Toxicity Exceedances). This recommendation was presented for the first time to the TIC for their review. Discussion will continue, with possible agreement, at the 13 June TIC meeting. A copy of this recommendation is appended to these meeting notes.

B. **FG Recommendation #6** (Time Allowance for MRP Plan Revisions). At the TIC meeting it was concluded that this recommendation is really a recommendation that does not include science and should be part of the waiver renewal documentation. The TIC elected to forward the recommendation (copy is appended to these meeting notes) to the Water Board staff as a comment to the Conditional Waiver Renewal documents. However, it was suggested that an email request for comments be sent to the entire TIC regarding this recommendation, so that comments could be offered if necessary.

C. **Triggers Focus Group Pending Recommendations**. The Triggers Focus group is continuing to work on recommendations for Assessment Completeness, and on the Options Table, and will consider the value of making recommendations for failed tests and for flow and load requirements.

D. **Addressing numeric limitations to interpret narrative objectives**. The process for using numeric values to interpret narrative objectives will take place, although it is not a listing that will be included in the Coalition Group MRP. Therefore, while the TIC will be able to provide valuable input to comments on the numeric values, it will not be necessary to do this prior to the approval of a Coalition Group MRP.

III. Sediment Toxicity focus Group Recommendation

A discussion regarding the first recommendation from the Sediment toxicity Focus Group took place. The recommendation was for appropriate follow-up when sediment toxicity is indicated. This recommendation has to do solely with the Hyalella test, and does not address toxicity that might be found utilizing *chironimus tentans*, which would likely utilize a different approach for toxicity identification. A copy of Sediment Toxicity Focus Group Recommendation #1 is appended to these meeting notes. The topic will be discussed at the 13 June 2006 meeting, for possible agreement by the TIC.

IV. Laboratory Round Table Focus Group Recommendation

The first recommendation from the Laboratory Round Table focus group considered the use of performance based analytical methods to be allowed for the Irrigated Lands Program, and recommended language related to the use of those methods. After discussion, it was clear that the Focus Group needed to continue to develop the recommendation before it was ready for consideration by the TIC. This recommendation may be re-introduced at the 13 June 2006 meeting.

V. QAPP comparison – SWAMP and existing ILP

A table was prepared by Water Board staff which considered the differences between the existing ILP QAPP requirements and those required by SWAMP. It was found that there were very few. A comparison was also made between the SWAMP QAPP and two QAPPs that have

been submitted for coalition MRP Plans. Similarly, those two QAPPs were very much aligned with the SWAMP requirements. It was noted that for QAPPs that if and when the ILP QAPP requirements are revised to match those of SWAMP, no changes would be necessary for existing Program QAPPs if they currently meet all of the same requirements but only are presented in a different sequence. As changes become necessary for QAPPs for other reasons, then re-ordering of chapters in the QAPPs may be advised.

VI. Next Meeting

The next meeting will be held on **13 June 2006**, and the participants agreed that a **full day meeting** will be necessary in order to address the proposed recommendations that will be coming forth at that time. It is anticipated that a 9:00 to 4:00 p.m. meeting will take place and that the meeting will include a working lunch.

STATUS of Previous Action Items

1. TIC Members will develop alternative language to address concerns expressed about the Tentative MRP, page 8, last paragraph on Management Practices implementation. *(Item from February meeting – no recommendations received; no action has taken place)*

2. The SWAMP program will work with the Irrigated Lands Coalitions to 1) develop a crosswalk between ToxCalc and SWAMP, 2) provide training for utilizing the database, QAPP development, and 3) to solicit constructive comments and suggested changes for modifications that can be made to the database. *(Margie Lopez Read will communicate with Val Connor regarding the status of the crosswalk and training opportunities. No comments or suggestions received to date)*

3. TIC members wish to work on re-wording the ILP QAPP so that it is better coordinated with the SWAMP QAPP. A focus group (laboratory?) discussion for this will be arranged. *(Staff prepared a comparison table between the two QAPPs, and this was presented at the 9 May 2006 TIC meeting)*

4. TIC members are going to provide comment on the studies that are used to provide numeric interpretation of narrative quality objectives. The appropriate focus group may be the Triggers Focus Group. *(This was discussed at the 9 May 2006 meeting)*

5. The Triggers group will continue to expand upon and improve the Options Table for storm water that was presented, and to draft up Problem Statements and language for a recommendation. *(being done)*

6. Language in the Tentative MRP will need to be clarified by staff so that the submittal of data for the ILP is consistent with SWAMP requirements . *(to be added by Staff with next version of a tentative MRP)*

7. Stephen Clark of Pacific EcoRisk, and Sandy Nurse of Sierra Foothill Labs will work on developing cost-estimates for a laboratory to submit electronic data in a SWAMP comparable format. *(Information is still being collected – Dania Huggins was ready to present this information at the 9 May meeting, but time did not allow. This may be presented at the 13 June meeting).*

8. Water Board staff will organize a presentation by Fish and Game regarding the Bioassessment project in Central Valley agriculture lands. *(This is tentatively scheduled for the 13 June 2006 meeting.)*

9. CCP will provide recommendations to staff about comment tracking protocols and methods to enhance readability of subsequent MRP recommendations/revisions from the TIC and Staff. *(to take place in near future)*

10. Staff and the TIC will further discuss the term "source" in a future meeting to ensure that there is shared meaning on the term and that there is clarity on it's use. *(ideas for language alternatives were shared via email communications and language was modified for the TIC focus group recommendations presented at the 9 May 2006 meeting.*

11. Focus groups will continue to meet to provide proposed recommendations for the 11 April meeting. *(done and will be continued)*

12. Central Valley Water Board staff will provide comments regarding the TIC Recommendation #1 at the 9 May 2006 TIC meeting. If there are questions or concerns from staff regarding the recommendation they can be discussed at that time. *(This was discussed at the 9 May 2006 meeting)*

13. Central Valley Water Board Staff will re-introduce to the TIC the objectives behind the requirement for utilizing a SWAMP comparable format at the 9 May meeting. *(This did not occur, due to lack of time availability. The discussion will occur at a later date).*

14. Stephen Clark will work with the Laboratory Round Table to provide a comparison of the types of entries required by the SWAMP comparable database with a minimal submittal that might be considered necessary for compliance evaluation with the ILP. Real world examples of data entries will be used to the extent feasible. *This action item will take place at the June meeting to ensure the availability of representatives from SWAMP*.

15. The TIC critical path will be revised to reflect item 9 above.

16. Comments received on Triggers Group Recommendations 2, 3, and 4 will be addressed by the Focus Group, and the revisions will be recirculated to the TIC with the goal of ratifying these Recommendations on 9 May 2006. *(Done)*

TRIGGERS FOCUS GROUP
RECOMMENDATION #5
SOURCE IDENTIFICATION MONITORING FOR TOXICITY EXCEEDANCES
2 May 2006

OBJECTIVE OF FOLLOW UP SAMPLING FOR TOXICITY EXCEEDANCES: The objective of this requirement is to obtain information regarding the source, frequency, and magnitude of the water quality exceedance.

PROBLEM STATEMENT: The Compliance Monitoring section of the draft Coalition Group MRP requires re-sampling at a monitoring site whenever a sample exceeds a receiving water limitation or water quality objective. Specifically, the draft MRP indicates that:

> *"the Coalition shall re-sample the monitoring site(s) where the exceedance was reported for each constituent that exceeds a receiving water limitation or water quality objective and at two or more sites upstream of the monitoring site with the exceedance (a total of three or more samples) within 72 hours of the submittal of the Exceedance Report….The Coalition Group will continue this re-sampling strategy for each detection that is an exceedance in the re-sampling results, until re-sampling results are below the receiving water limitation that implements the appropriate Basin Plan's water quality objective."*

Assuming that the TIC Recommendation #1 (for samples with less than 50% toxicity) is adopted into the new Coalition Group MRP, the new requirements will include specific follow-up measures for toxicity testing based on the outcome of the toxicity test results. The follow-up measures would be:

- Water samples that are "statistically significant" at the end of an acceptable test and that exhibit a reduction in organism response that is less than 20% compared to control will require the submittal of an exceedances report.
- Water samples that are "statistically significant" at the end of an acceptable test and that exhibit a ≥ 20% reduction in organism response compared to the control will require follow-up sampling and submittal of an exceedances report;
- Water samples that exhibit a ≥ 50% reduction in organism response compared to the control will require a Toxicity Identification Evaluation (TIE) follow-up sampling and submittal of an exceedances report; and
- Water samples that exhibit complete mortality compared to the control will require a multiple dilution series test, follow-up sampling, a TIE and submittal of an exceedances report.

The requirement follow-up sampling following the observation of a greater than or equal to 20% reduction in organism response presents technical concerns for both storm event irrigation season monitoring. It is difficult, and can be extremely costly, to identify a source for an observed case of toxicity due to the temporal period that will have passed from the time of sample collection to the time that additional samples are collected (i.e., re-sampling would occur days after the original observation of the toxicity exceedance). During this time lag, the agricultural practices in the area may have changed and the water that was originally collected would have long since moved downstream. Re-sampling can assess the frequency and magnitude of the toxicity, yet

there is no guarantee that the cause of toxicity in the original exceedance would be the same for any toxicity observed during a re-sampling effort.

Therefore, the Triggers Focus Group is making the following recommendation to the TIC:

RECOMMENDATION:
When an exceedance of a narrative toxicity objective is reported, the Coalition must have a pre-determined follow-up plan in their Monitoring and Reporting Program Plan. This approach will provide flexibility for Coalitions to design site- (or watershed) specific, science-based approaches to address this requirement. It is expected that the proposed approach will be based on historical monitoring data and possibly knowledge of agricultural practices (e.g., current pesticide use data). Follow-up monitoring approaches may include, but may not be limited to, monitoring at two upstream sites, re-sampling of the site with the water quality exceedance, use of historical data to design a re-sampling strategy, and dialogue and data from the County Agriculture Commissioner.

It is recommended that the narrative in the draft Coalition Group MRP be changed to read:

> *"the Coalition shall include a follow-up approach to address exceedances of receiving water limitation for toxicity data in their MRP Plan, and shall implement the approach via the methods and within the timeline outlined in the individual Coalition MRP Plan approved by the Executive Officer of the Central Valley Water Board. The Coalition will continue implementing their follow-up approach until a source or sources of the toxicity exceedance is identified via the methods and frequency proposed in the Coalition MRP. A definition of source or sources must be provided in the Coalition MRP, which may include, but is not limited to, an agricultural practice, upstream identification, non-farm related activities, or natural conditions. "*
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TRIGGERS FOCUS GROUP
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below the receiving water limitation that implements the appropriate Basin Plan's water quality objective."

Assuming that the TIC Recommendation #1 (for samples with less than 50% toxicity) is adopted into the new Coalition Group MRP, the new requirements will include specific follow-up measures for toxicity testing based on the outcome of the toxicity test results. The follow-up measures would be:

- Water samples that are "statistically significant" at the end of an acceptable test and that exhibit a reduction in organism response that is less than 20% compared to control will require the submittal of an exceedances report.
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The requirement follow-up sampling following the observation of a greater than or equal to 20% reduction in organism response presents technical concerns for both storm event irrigation season monitoring. It is difficult, and can be extremely costly, to identify a source for an observed case of toxicity due to the temporal period that will have passed from the time of sample collection to the time that additional samples are collected (i.e., re-sampling would occur days after the original observation of the toxicity exceedance). During this time lag, the agricultural practices in the area may have changed and the water that was originally collected would have long since moved downstream. Re-sampling can assess the frequency and magnitude of the toxicity, yet there is no guarantee that the cause of toxicity in the original exceedance would be the same for any toxicity observed during a re-sampling effort.

Therefore, the Triggers Focus Group is making the following recommendation to the TIC:

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It is recommended that the narrative in the draft Coalition Group MRP be changed to read:

"the Coalition shall include a follow-up approach to address exceedances of receiving water limitation for toxicity data in their MRP Plan, and shall implement the approach via the methods and within the timeline outlined in the individual Coalition MRP Plan approved by the Executive Officer of the Central Valley Water Board. The Coalition will continue implementing their follow-up approach until a source or sources of the toxicity exceedance is identified via the methods and frequency proposed in the Coalition MRP. A definition of source or sources must be provided in the Coalition MRP, which may include, but is not limited to, an agricultural practice, upstream identification, non-farm related activities, or natural conditions. "
"

SEDIMENT TOXICITY FOCUS GROUP
SEDIMENT TOXICITY RECOMMENDATION #1
FOLLOW UP ACTIVITIES AFTER OBSERVED SEDIMENT TOXICITY
9 May 2006

OBJECTIVE: The objective of this requirement is to obtain information regarding the possible cause of sediment toxicity, when sediment toxicity is observed in Coalition samples. By identifying the possible cause of toxicity, the influence of agricultural practices on the observed toxicity can be evaluated, and management practices can be designed and implemented to reduce or eliminate the contribution from agricultural sources.

PROBLEM STATEMENT: The Assessment Monitoring section of the draft Coalition Group MRP requires sampling and analysis for sediment toxicity using the test species *Hyalella azteca* or *Chironomus tentans*, but the MRP does not clearly specify what follow up actions should be conducted when toxicity to sediment test species is exhibited. The MRP needs to provide specific guidance regarding follow up actions in response to observed sediment toxicity, so that the possible cause of the toxicity can be identified, and appropriate mitigation efforts can be initiated. Guidance for the follow up approach should be scientifically based (and Coalition specific if necessary), so that resources are used appropriately and efficiently. Efforts to mitigate sediment toxicity are required to comply with the narrative toxicity and pesticides objectives in the Basin Plan. There are currently no established numeric sediment quality criteria for specific chemical or physical parameters.

Currently, the follow up actions prescribed in the MRP in response to observed toxicity either explicitly or implicitly refer to water column organisms. Specific details for follow up actions required in response to sediment toxicity are not well defined. Analysis of sediment samples for pyrethroid insecticides is indicated in Table 1 of the draft MRP, however the required frequency for chemical testing is ambiguous.

Approximately 25 to 30% of the sediment samples analyzed under the Irrigated Lands Program have exhibited toxicity to the test species. Chemical analysis of about 200 of these samples has shown that concentrations of pyrethroids and chlorpyrifos can account for the observed toxicity in approximately 75% of the instances. Reproducible Toxicity Identification Evaluation (TIE)

procedures are still under development for sediment. Approved TIE procedures for sediment are not currently available.

Therefore, the Sediment Toxicity Focus Group is making the following recommendation to the TIC:

RECOMMENDATION:
Sediment samples that show "statistically significant" toxicity at the end of an acceptable test and that exhibit a greater than or equal to 20% reduction in organism survival compared to the control will require chemical analysis of the same sample in an effort to determine the possible cause of toxicity. When sediment samples are collected for toxicity analysis, additional sample volume sufficient for the recommended chemical and physical analyses must be collected, in the event that the sample exhibits toxicity. This additional sample volume must be held in frozen storage, until the results of the toxicity analysis are available. If the sample is not toxic to the test species, the additional sample volume can be discarded. If the toxicity criterion described above is exceeded, then as a current requirement, the additional sample volume must be analyzed for Bifenthrin, Cyfluthrin, Lambda-Cyhalothrin, Permethrin, Cypermethrin, Deltamethrin, Esfenvalerate, Fenpropathrin, and Chlorpyrifos. To allow comparison to established lethal concentrations of these chemicals to the test species, analysis at practical reporting limits of 1 µg/kg on a dry weight basis is required. Additionally, the sample must be analyzed for total organic carbon (TOC) and grain size. Analysis for TOC is necessary to evaluate the expected magnitude of toxicity to the test species.

It is recommended that the narrative in the draft MRP be changed to include the following text:

> "*Sediment samples that show "statistically significant" toxicity at the end of an acceptable test and that exhibit a greater than or equal to20% reduction in organism survival compared to the control will require chemical analysis of the same sample in an effort to determine the possible cause of toxicity. When sediment samples are collected for toxicity analysis, additional sample volume sufficient for the recommended chemical and physical analyses must be collected, in the event that the sample exhibits toxicity. This additional sample volume must be held in frozen storage, until the results of the toxicity analysis are available. If the sample is not toxic to the test species, the additional sample volume can be discarded. If the toxicity criterion described above is exceeded, then the additional sample volume must be analyzed for Bifenthrin, Cyfluthrin, Lambda-Cyhalothrin, Permethrin, Cypermethrin, Deltamethrin, Esfenvalerate, Fenpropathrin, and Chlorpyrifos. Analysis at practical reporting limits of 1 µg/kg on a dry weight basis for each pesticide is required to allow comparison to established lethal concentrations of these chemicals to the test species. Additionally, the sample must be analyzed for total organic carbon (TOC) and grain size. Analysis for TOC is necessary to evaluate the expected magnitude of toxicity to the test species."*